File

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
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M E M O R A N D U M
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TO: Board of Oil, Gas and Mining

FROM: Thomas N. Tetting, Engineering Geologist

SUBJECT: Getty Mineral Resources Company
Mercur Canyon Project
ACT/045/013
Tooele County, Utah

DATE: April 23, 1981

The Division staff has reviewed the Mining and Reclamation Plan submitted by Getty Mineral Resources for the Mercur Canyon Project and feels that the plan meets the requirements of the Utah Mined Land Reclamation Act. The Division seeks the Board's concurrence to issue tentative approval for this mine operator.

In addition, the Division seek's the Boards concurrence with the form and amount of reclamation surety.

An Executive Summary is enclosed for your review and information.

TNT/te

Attachment

EXECUTIVE SUMMARY
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GETTY MINERAL RESOURCES COMPANY
Mercur Canyon Project
ACT/045/013
Sections 5, 6, 7 and 8,
Township 6 South, Range 3 West, SLBM
Tooele County, Utah

LOCATION:

The proposed mining operation is located in the Oquirrh Mountains approximately 35 miles SW of Salt Lake City in Tooele county. The ruins of the old gold mining and milling facilities as well as the "ghost town" of Mercur are on the present mining site. (See attached map)

INTRODUCTION:

Getty proposes to develop and operate an open pit gold mine with an attendant milling and refining facility on-site. The overall project consists of two major components, the mine pit on Mercur Hill and the mill located one-half mile east of the mine. They have proposed activity that will be strictly limited to those locations where they have procurred the surface and mineral rights. 47% (127 acres) of the proposed project will take place on previously disturbed and mined areas. Most of these disturbances have not been reclaimed.

ENVIRONMENTAL CONSIDERATION:

Climate: The area is considered to be semi-arid with evaporation exceeding precipitation. Average rainfall is about 17-18 inches.

Geology: The Oquirrh Mountains are situated near the eastern margin of the Basin and Range province. These mountains are composed of Paleozoic sedimentary rocks which have been folded, faulted and occasionally intruded by igneous Tertiary aged rocks. Weathering has formed alluvial aprons around the mountains and fluvial lacustrine deposits in the passes and stream valleys, all of Quaternary age. The Mercur area is situated on the east flank or limb of the Ophir anticline, one of a series of structural folds trending Northwest to Southeast.

The Great Blue Limestone formation is the mineralized sequence of rocks with which they are concerned, particularly its lower 650 feet called the Topliff member.

Soils: Six principle soil series overlie the area. The soils vary in alkalinity but are generally between 6-8 on the pH scale and are variations of a loamy clay.

Ecology and Vegetation: Four major types are on the site: pinyon-juniper, on the dry south slopes; mixed brush on the more moist north slopes and canyon ravines; sagebrush in the alluvial fan areas; bottomland disturbed, in a range of locations disturbed previously.

There are no threatened or endangered plants listed for Tooele County, Utah. The bald eagle is the only threatened/endangered animal species known in the general area and no nests were sited in a 1980 wildlife study conducted by Mariah Associates. Elk and mule deer use the area as summer and transition range and limited sheep grazing is also occurring at present. There are abundant mammals and avifaunal species on and near the site area.

Hydrology: No perennial or intermittant streams are present on site, Mercur Creek is an ephemeral stream flowing only in response to local thunderstorms and spring runoff. Three small springs exist north of the property and will not be affected. Ground water is limited by the climate. No active aquifers are present within 1,000 feet of the surface near the pit. The tailings and settling ponds will receive disturbed drainage.

STRUCTURES AND FACILITIES:

Getty Minerals has no permanent structure on the site at present. Many old foundations and abandoned mining facilities exist dating back to the late 1800's. The State Historical Preservation Office is in concurrence with our recommmendations.

The proposed mine complex is shown on map 2.0-1 and includes the following components:

Component	Acreage
Open Pit Mine	64
Waste Dump Area	49
Low Grade Ore Storage	11
Soils Stockpile	18
Plant Site	37
Tailings, Dam and Pond	57
Settling Pond	5
Road Corridor & Miscellaneous	31
	272

MINING AND RECLAMATION PLAN:

During Operations:

The open pit mining operation, will remove overburden and process minable ore during the seven year economic life of the mine (5-year full prod). The run-of-mine ore will be crushed, ground and subjected to cyanidation process to separate the gold from the ore. Mine waste rock and low grade ore will be stored in two separate areas near the mine pit, while tailings from the mill will be placed in a pond located north of the mill on the permit area. Water for the process will be pumped from a well and also reclaimed from the tailings pond. Also, because of anticipated dewatering activities from the old mine workings, a settling pond will be used to store this water for later utilization in the mine and milling processes. Preliminary power requirements for the mine and well are estimated to be less than ten megawatts (see Getty Map 2.0-1). The dam embankment and soils stockpiles will be seeded during operation of the mine. This well will be drilled off-site.

After Operations:

The operator has committed to comply with all applicable reclamation standards adopted under the Utah Mined Land Reclamaion Act except for the following requested variances.

Reference Location	
M-10(3)	We are planning on leaving the sedimentation pond in operating condition when abandoned. This facility will impound runoff until it fills with sediment up to the spillway elevation. It will have continuing use for livestock and wildlife.
M-10(5)	The open pit walls will be left in an as-mined, benched configuration except for the top bench level which will be left at the angle of repose for shot rock. This practice will provide for public safety as well as minimizing the disturbed area. Also, certain road and pad cuts may not be regraded to angles less than 1:1 if they are proven to be stable at their design slopes during the life of the operation. All of these cut slopes will be designed with prudent factors of safety.
M-10(7)	The existing county roads will not be relcaimed and will be turned over for continuing use in a suitable condition.
M-10(8)	Certain facilities such as the overburden waste dump, low grade ore dump, tailings pond and millsite will cover, restrict or reroute some natural drainage channels. As described in the Mining and Reclamation Plan, some of these drainage alterations will be permanent.
M-10(10)	There are over 130 separate abandoned mine facilities within the permit area, many of which are posted and fenced. Getty does not want to assume reclamation responsibility for those old facilties not reactivated by Getty.
M-10(12)	Certain areas such as the open pit, some cut-walls and the sedimentation pond will not be revegetated due to their lack of soil and continuing uses. Old mining disturbances, preceding Getty's operations and not utilized by Getty will not be revegetated either.
M-10(13)	The sedimentation pond will not be reclaimed as explained for M-10(3).
M-10(14)	The soils that will be stripped and stockpiled will be topsoils only. Subsoils will not be stripped and segregated due to their erratic distribution and potential use for construction materials.

The Division recommends accepting them.

IMPACTS:

Most of the anticipated impacts on the Mercur area are of a short term nature (occuring during mining but would cease after reclamation). The primary impact on predators will be the loss of potential prey due to reduction in small mammals when vegetation is removed. This will be reestablished after a period of redevelopment. Impacts are considered slight.

SURETY ESTIMATE:

The Surety form will be a Mined Land Reclamation Contract for the amount of ~~$1,036,087~~. This includes a 13 percent inflation rate with a seven year mine production life. See attached bond estimate.

$ 1,170,779